

Year 2000 Synergy Projects

Spatial Data Infrastructure Enhancement

Definition of the Opportunity

National Ocean Service (NOS) leadership in coastal stewardship and safe navigation will be enhanced by the development of a mechanism that provides access to NOS's spatial data holdings. NOS spends millions of dollars annually to meet agency strategic goals related to spatial data. By enhancing our spatial data infrastructure we can significantly expand and enhance our relationship with our user community while improving the efficiency of existing programs. To accomplish this we must address two fundamental issues.

Spatial data is a fundamental part of doing business within NOS and key to developing the NOS role in coastal stewardship and safe navigation. An enterprise-wide plan for the development of spatial data will be put in place by the end of FY 99. Institutional understanding of the importance of the NOS spatial databases at the highest levels will be nurtured and emphasized. Although the delivery of a final product (i.e nautical chart, environmental atlas, etc) is the primary focus of much of the spatial data activity in NOS, the organization recognizes the value of these spatial data holdings beyond simply building a product.

At this time, NOS's spatial data are housed in a combination of incompatible systems, with much of the data in outdated legacy systems that are jeopardy of being lost. In addition to not meeting internal organizational spatial data needs, NOS is also not meeting the challenge of providing spatial data to external geographic information system (GIS) and remote sensing (RS) users. There is a changing and increasingly sophisticated customer base demanding new and improved NOS products.

As described by the National Partnership for Reinventing Government (National Performance Review), there is a need for a national spatial data framework. In April 1994, President Clinton signed *Executive Order 12906*, which created the National Spatial Data Infrastructure (NSDI) as well as the oversight body known as the Federal Geographic Data Committee (FGDC). As outlined in *Executive Order 12906*, federal agencies were given one year to develop a plan to have their spatial data documented and accessible and to begin implementation of that plan. This initiative will help NOS meet the compliance requirement as described in *Executive Order 12906* by making fundamental NSDI framework data sets such as bathymetry, shoreline, and geodetic control readily accessible in standard formats. In addition, this initiative will establish coordination efforts with other agencies such as the Mineral Management Service (MMS) and U.S. Geological Service (USGS) on spatial data issues such as digital Sanctuary boundaries, shoreline, and other offshore boundaries. NOS has the technology, the expertise and the will to now address this long standing deficiency in its spatial data operations. **NOS will begin, in FY 99, to meet compliance requirements as described in *Executive Order 12906*.**

Strategy for a Spatial Data Infrastructure Initiative

Objectives:

- Develop and implement a functional coordinated NOS-wide spatial data policy in support of the NOS role in coastal stewardship and safe navigation.

- Become fully compliant with *Executive Order 12906*, which requires all federal agencies to develop and implement a plan to document spatial data and make these data accessible via the Internet.
- Provide NOS leadership on the FGDC and participate fully in the development of basic coastal and ocean framework data.
- Fully meet the customer expectation that NOS is the coastal and ocean complement to the USGS land-based mapping program by providing paper and electronic maps as well as individual vector data layers.
- Refocus NOS on the development of spatial databases as the fundamental element for producing spatial data products (i.e., nautical charts, digital data layers) in the future.

Strategic Overview:

Many traditional NOS processes and activities must be changed for this effort to be successful. The first step in achieving these objectives should be to convene an NOS-wide Spatial Data Infrastructure Crosscut Team. The Team should move quickly to identify the fundamental issues and begin to develop a strategy that addresses cross-office needs and objectives. The Team should brief the SMC early on to review objectives, and approach, and prompt advocacy throughout the organization. The following outcomes provide greater detail on the strategic approach.

Preferred outcomes:

Fiscal Year 1999

- Brief the SMC on spatial data infrastructure issues.
- Identify leadership for the NOS spatial data infrastructure issues.
- Create the NOS Spatial Data Infrastructure Crosscut Team by October 1998.
- Understand all customer requirements (navigation, positioning, management, restoration, response, and science) by December 1998.
- Develop the NOS plan for becoming compliant with *EO 12906*.
- Outline the spatial data flow within NOS by March 1999.
- Inventory programs and resources invested in spatial data activities March 1999.
- Explore cost savings on GIS and RS software resulting from bulk buying agreements.
- Complete shoreline, bathymetry, and geodetic control for FGDC data content standards.
- Update and make available fundamental coastal and ocean mapping documents such as Shalowitz, Coastal Mapping Handbook and Tidal Datums.
- Begin coordination with MMS and USGS on overlapping spatial data elements.
- Add FGDC activities to the Employee Performance Plans of key staff and senior executive service.

Fiscal Year 2000 and Beyond

- Concentrate institutional focus on the spatial database as a valuable resource.
- Increase coordination of NOS line offices with respect to spatial data.
- Reduce duplication of effort in the creation of spatial data.
- Document all framework data with FGDC-compliant metadata.

- Make framework data available via the Internet (MapFinder Project) in standard formats.
- Increase coordination with other NOAA line offices and external agencies on spatial data elements.
- Realize NOS as the coastal and ocean complement to the USGS land-based mapping agency with the full distribution of both paper and vector digital elements of all NOS data.

Conclusion

NOS will be **the** role model in the area of coastal stewardship by leading the way with regard to spatial data. Spatial data is a valuable NOS resource and fundamental to the NOS mission. Spatial data is a critical element to the organization's products and services and is used in all four of the NOS core areas of coastal and ocean science, response and restoration, navigation and positioning, and management. Moreover, with a coordinated effort, NOS can meet the changing demands of all its customers and realize its potential as the principal advocate for coastal and ocean stewardship.